DROSOPHILA HEDGEHOG CHICKEN HEDGEHOG-A CHICKEN HEDGEHOG-B DROSOPHILA HEDGEHOG CHICKEN HEDGEHOG-A CHICKEN HEDGEHOG-B DROSOPHILA HEDGEHOG CHICKEN HEDGEHOG-A CHICKEN HEDGEHOG-B

G < R M H Z Σ > Σ S A

RA エエ 工 D Q Q <u>×</u> ≥ 9

G F.D Σ Σ 9 RH \propto

FIGURE 1

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1 HONNESSYPHASAASYTCLSLDAKCHSSSSSSSKSAASS I DROSONILLA HEDEROOM

1 SAIPQEETQTHRHIAHTQRCLSRHTSLVALLLIVE CHICKEN SCHIC HEDEROOM

21 SGLICGFGRGIGK RRHPKKLTFLAYRKOFIPHVAEXHLLIVEPHVFS DROSONILLA HEDEROOM

22 SGLICGFGRGIGK RRHPKKLTFLAYRKOFIPHVAEXHLLIVEPHVFS DROSONILLA HEDEROOM

23 SGLICGFGRGIGK RRHPKKLTFLAYRKOFIPHVAEXHLLIVEPHVFS DROSONILLA HEDEROOM

24 SAIPQEETQTHRHIAHTAN SCHICKEN SCHICHEDEROOM

25 GRYEGKITRHSE RFKELTFHYH PHYHPFIJIFKDE ENTGADRLHT CHICKEN SCHICHEDEROOM

26 GRYEGKITRHSE RFKELTFHYHPHYHPFIJIFKDE ENTGADRLHT CHICKEN SCHICHEDEROOM

27 CCKDIKLHVLAYLAYRANDHYF AND HAF AND ALLAYLAG PHYHILIGO GEST DROSONILLA HEDEROOM

28 KACKRELHVLAYLAYRANDHYF AND ALLAYLAG PHYHYPESKA CHICKEN SCHICHEDEROOM

29 HYEGRAYTHAT SORDOSKYGHLARLAYLAG PHYYYPESKA CHICKEN SCHICHEDEROOM

20 HYEGRAYTHAT SORDOSKYGHLARLAYLAG PHYYYPESKA CHICKEN SCHICHEDEROOM

20 HYEGRAYTHAT SORDOSKYGHLARLAYLAG PHYYYPESKA CHICKEN SCHICHEDEROOM

21 HILICSYKA ENSVA A KSOGCFPOSATVHLEHDOOM TKLV KDLSCHICKEN SCHICHEDEROOM

22 HOLIVCSYKS DSEISS IN VHIGCTTPE STIALLLESOV RRHPL O ELLS DROSONHILA HEDEROOM

22 FGDRYLAA DAADCA LLYSDFTTPE STIALLLESOV RRHPL O ELLS DROSONHILA HEDEROOM

23 PRANGILLLTAANHOOV VYSEVI LLEHODNU LEQHON NEVQLIHT DOROSONHILA HEDEROOM

24 PRANGILLLTAANHOOV VYSEVI LLEHODNU LEQHON NEVQLIHT DOROSONHILA HEDEROOM

25 PRANGILLUS SCHICHEDEROOM

26 PRANGILLUS SCHICHEDEROOM

27 PRANGILLUS SCHICHEDEROOM

28 PRANGILLUS SCHICHEDEROOM

29 OGANYTYV CECCOOLULTA SVINSVI SVINS LREEA SGAYYA PLTAQGT CHICKEN SCHICHEDEROOM

20 CONVYV CECCOOLULTA SVINS ORDINA HEDEROOM

21 LIIIN NOVIL WRDV COLOR ORDINA HEDEROOM

21 LIIN NOVIL WRDV COLOR ORDINA HEDEROOM

22 KROOMINIA HEDEROOM

23 PRANGILLUS COLOR ORDINA HEDEROOM

24 PRANGILLUS COLOR ORDINA HEDEROOM

25 ROSONILLA HEDEROOM

26 PRANGILLUS COLOR ORDINA HEDEROOM

27 CHICKEN SCHICHEDEROOM

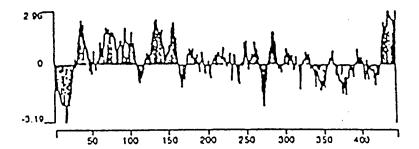
28 PRANGILLUS COLOR ORDINA HEDEROOM

29 PRANGILLUS COLOR ORDINA HEDEROOM

20 CHICKEN SCHICHENDEROOM

20 PRANGILLA HEDEROOM
```

FIGURE 2



HYDROPATHY INDEX

FIGURE 3

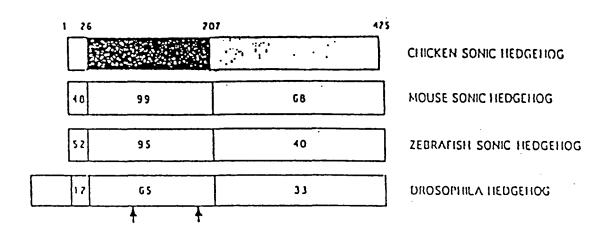


FIGURE 4

FIGURE 5A

	.1				
ઇ− հհ	MONHSSVPWA	Saasviclsl	DAKCHSSSS	SSSKSAASSI"	SAIPQEETOT
M-Dhh		********	******	•••••	*********
M-Ihh		•••••	• • • • • • • • • •		••••••
M-Shh		• • • • • • • • •	•••••		••••••
C-Shh	••••••	•••••	••••••	•••••	
Z-Shh	••••••	••••••	••••••	••••••	
2-51111	***********	************	***********	•••••	*********
•				1 .	
	51			_:	
D-hh	MRHIAHTQRC	LSRLTSLVAL	LLIVLPMVFS	PAHSCGPGRG	LGRHR • • • AR
M-Dhh	• • • • • • • • •	••Malpasll	PLCCLALLAL	<i>Saqs</i> cgpgrg	PVGRRRYVRK
M-Ihh	• • • • • • • • • •	• • • • • • • • • •	• • • • • • • • •	• • • • • • • • • •	• • • • • • • • •
M-Shh	• • • • • • • • •	MLLLLARCFL	VILASSLLVC	<i>PGLA</i> CGPGRG	FGKRRH••PK
C-Shh	•••••••W	EMLLLTRILL	VGFICALLVS	SGLTCGPGRG	IGKRRH • • PK
z-Shh	• • • • • • • • •	•MRLLTRVLL	VSLLTLSLVV	SGLACGPGRG	YGRRRH • • PK
					•
	101	•			•
D-hh	NLYPLVLKQT	IPNLSEYTNS	ASGPLEGVIR	RDSPKPKDLV	PHYNRDILYR
M-Dhh	OLVPLLYKOF	VPSMPERTLG	ASGPAEGRVT	RGSERFRDLV	PHYNPDIIPK
M-Ihh	Sattabanda	••••••	********	· · · ERPKELT	PHYNPDIIFK
M-Shh	KLTPLAYKOF	IPNVAEKTLG	ASGRYECKIT	RNSERPKELT	PNYNPDIIPK
		IPNVAEKTLG	ASGRYEGKIT	RNSERFKELT	
C-Shh	KLTPLAYKQF				PNYNPDIIFK
z-Shh	KLTPLAYKOF	IPNVARKTLG	ASGRYEGKIT	RNSERPKELT	PHYNPDIIFK
	-t- ·		•		
	151	Υ			
D-hh	DEEGTGADRL	MSKRCKEKLN	VLAYSVMNEW	PGIRLLVTES	MDEDAHREGE
M-Dhh	Deensgadrl	MTERCKERVN	ALXIAVMMW	PGVRLRVTEG	WDEDGHHAQD
M-Ihh	DEENTGADRL	MTQRCKDRLN	SLAISVHNQW	PGVKLRVTEG	RDEDGHESEE
M-Shh	· DEENTGADRL	HTQRCKDKLN	ALXISVMNQW	PGVRLRVTEG	WDZDGHHSEE
C-Shh	DEENTGADRL	MTORCKDKLN	ALXISVMNOW	PGVKLRVTEG	WDEDGRESEE
z-Shh	DEENTGADRL	MTORCKOKLN	SLAISVHNHW	PGVKLRVTEG	WDEDGRHFEE
		•			
	201				
D-hh	SLHYEGRAVT	IATSDRDOSK	YCHLARLAVE	AGPDWVSYVS	RRHIYCSVKS
M-Dhh	SLHYEGRALD	ITTSDRDRNK	YGLLARLAVE	AGPDWVYYES	RNHIHVSVKA
M-Ihh	SLHYEGRAVD	ITTSDRDRNK	YGLLARLAVE	_	
M-Shh				ACPDWVYYES	KAHVHCSVKS
	SLHYEGRAVD	ITTSDRDRSK	YGMLARLAVE	AGPDWVYYES	Kahihosvka
C-Shh	SLHYEGRAVD	ITTSDRDRSK	YGMLARLAVE	AGPDWVYYES	Kahihcsvka
z-Shh	SLHYEGRAVD	ITTSDRDKSK	YGTLSRLAVE	AGPDWVYYES	Kahihcsvka
	. ₹	•••••		•	
	251		·	•	
D-hh	DSSISSHVHG	CPTPESTALL	ESGVRKPLGE	LSIGDRVLSM	TANGQAVYSE
M-Dhh	DNSLAVRAGG	CPPGNATVRL	RSGERKGLRE	LHRGDWVLAA	DAAGRVVPTP
M-Ihh	EHSAAAKTGG	CFPAGAQVRL	ENGERVALSA	VKPGDRVLAM	GEDGTPTFSD
M-Shh	ENSVAAKSGG	CPPGSATVHL .	EQCCTKLVKD	LRPGDRVLAA	DDQGRLLYSD
C-Shh	ENSVAAKSGG	CFPGSATVHL	EHCGTKLVKD	LSPGDRVLAA	DADGRLLYSD
	ENSVAAKSGG	CPPGSALVSL	QDGGQKAVKD	LNPGDKVLAA	DSAGNLVFSD
	,	C GONDIO	Specification	DITTODICTEDAN	DOVOUDATOD
	301	• •			
D-hh	VILPMDRNLE	OMONFVOLHT	• DGGAVLTVT	DAMESTICI ELO	
M-Dhh		RRASPVAVET	ERPPRKLLLT	PAHLVSVWQ.	PESQ
	תוחסת וסוונו	VVV2t AVAUT		PWHLVFAAR.	· · · GPAPAPG
	. VLLPLDRDLQ	DIDAPOUTES			
. M-Ihh.	VLIPLDREPN .	.RLRAPQVIET -		PAHLLFIADN	HTE • • • PAA
M-Ihh. M-Shh.	VLIPLDREPN . FLTPLDRDEG	AKKVPYVIET	LEPRERLLLT	AAHLLFVAP.	HNDSGPTPGP
M-Ihh. M-Shh. C-Shh	VLIPLDREPN . FLTPLDRDEG FLTPLDRMDS	AKKVPYVIET SRKLPYVIET	LEPRERLLLT ROPRARLLLT	AAHLLFVAPO AAHLLFVAPO	HNDSGPTPGP HNQSEATGST
M-Ihh. M-Shh.	VLIPLDREPN . FLTPLDRDEG	AKKVPYVIET	LEPRERLLLT	AAHLLFVAP.	HNDSGPTPGP
M-Ihh. M-Shh. C-Shh	VLIPLDREPN . FLTPLDRDEG FLTPLDRMDS FIMPTDRDST	AKKVPYVIET SRKLPYVIET	LEPRERLLLT ROPRARLLLT	AAHLLFVAPO AAHLLFVAPO	HNDSGPTPGP HNQSEATGST
M-Ihh. M-Shh. C-Shh Z-Shh	VLIPLDREPN . FLTPLDRDEG FLTPLDRMDS FIMPTDRDST	AKKVPYVIET SRKLPYVIET TRRVPYVIET	LEPRERLLLT ROPRARLLLT QEPVEKITLT	AAHLLFVAPO AAHLLFVLDN	HNDSGPTPGP HNQSEATGST
M-Ihh. M-Shh. C-Shh Z-Shh	VLIPLDREPN . FLTPLDRDEG FLTPLDRMDS FIMPTDRDST 351 KLTFVFADRI	AKKVPYVIET SRKLFYVIET TRRVPYVIET EEKNQVLV••	LEPRERLLT ROPRARLLT QEPVEKITLT RDVETGELRP	AAHLLFVAPO AAHLLFVLDN AAHLLFVLDN QRVVKVG•SV	HNDSGPTPGP HNOSEATGST STEDLHTMT• RSKGVVAPLT
- M-Ihh- M-Shh . C-Shh Z-Shh D-hh M-Dhh	LVLIPLDREPN . FLTPLDRDEG FLTPLDRMDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL	AKKVPYVIET SRKLPYVIET TRRVPYVIET EEKNQVLV RAGDSVLA	LEPRERLLT ROPRARLLT QEPVEKITLT RDVETGELRP ••PGGDALQP	AAHLLFVAPO AAHLLFVLDN QRVVKVG•SV ARVARVA•RE	HNDSGPTPGP HNOSEATGST STEDLHTMT• RSKGVVAPLT EAVGVFAPLT
- M-Ihh- M-Shh . C-Shh Z-Shh D-hh M-Dhh M-Ihh	.VLIPLDREPN . FLTPLDRDEG FLTPLDRMDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV	AKKVFYVIET SRKLFYVIET TRRVFYVIET EEKNQVLV RAGDSVLA QPGQYVLV	LEPRERLLIT RQPRARLLIT QEPVEKITLT RDVETGELRP ••PGGDALQP ••SGVPGLQP	AAHLLFVAPO AAHLLFVLDN AAHLLFVLDN QRVVKVG•SV	HNDSGPTPGP HNOSEATGST STEDLHTMT• RSKGVVAPLT
M-Ihh M-Shh C-Shh Z-Shh D-hh M-Dhh M-Ihh M-Shh	-WLIFLDREPN . FLTFLDRDEG FLTFLDRMDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S•ALFASRV	AKKVPYVIET SRKLPYVIET TRRVPYVIET EEKNQVLV RAGDSVLA	LEPRERLLT ROPRARLLT QEPVEKITLT RDVETGELRP ••PGGDALQP	AAHLLFVAPO AAHLLFVLDN QRVVKVG•SV ARVARVA•RE	HNDSGPTPGP HNOSEATGST STEDLHTMT• RSKGVVAPLT EAVGVFAPLT
M-Ihh M-Shh C-Shh Z-Shh D-hh M-Dhh M-Ihh M-Shh C-Shh	LVLIPLDREPN . FLTPLDRDEG FLTPLDRMDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S•ALFASRV SGQALFASNV	AKKVFYVIET SRKLFYVIET TRRVFYVIET EEKNQVLV·• RAGDSVLA·• QPGQYVLV·• RPGQRVYVVA KPGQRVYVLG	LEPRERLLIT RQPRARLLIT QEPVEKITLT RDVETGELRP ••PGGDALQP ••SGVPGLQP	AAHLLFVAPO AAHLLFVLDN QRVVKVG•SV ARVARVA•RE ARVAAVS•TH	HNDSGPTPGP HNQSEATGST STEDLHTMT• RSKGVVAPLT EAVGVFAPLT VALGSYAPLT
M-Ihh M-Shh C-Shh Z-Shh D-hh M-Dhh M-Ihh M-Shh	-WLIFLDREPN . FLTFLDRDEG FLTFLDRMDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S•ALFASRV	AKKVFYVIET SRKLFYVIET TRRVFYVIET EEKNQVLV·• RAGDSVLA·• QPGQYVLV·• RPGQRVYVVA	LEPRERLLIT ROPRABLLIT QEPVEKITLT RDVETGELRP ••PGGDALQP ••SGVPGLQP ERGGDRRLLP	AAHLLFVAPO AAHLLFVLDN QRVVKVG·SV ARVARVA·RE ARVAAVS·TH AAVHSVTLRE	HNDSGPTPGP HNOSEATGST STEDLHTMT• RSKGVVAPLT EAVGVFAPLT VALGSYAPLT EEAGAYAPLT
M-Ihh M-Shh C-Shh Z-Shh D-hh M-Dhh M-Ihh M-Shh C-Shh	-VLIPLDREPN . FLTPLDRDEG FLTPLDRMDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S.ALFASRV SQALFASNVAAYASSV	AKKVFYVIET SRKLFYVIET TRRVFYVIET EEKNQVLV·• RAGDSVLA·• QPGQYVLV·• RPGQRVYVVA KPGQRVYVLG	RDVETGELRP • PGGDALQP • SGVPGLQP ERGGDRLLP E• GGQQLLP	AAHLLFVAPO AAHLLFVLDN QRVVKVG•SV ARVARVA•RE ARVAAVS•TH AAVHSVTLRE ASVHSVSLRE	HNDSGPTPGP HNQSEATGST STEDLHTMT• RSKGVVAPLT EAVGVFAPLT EAVGSYAPLT EEAGAYAPLT EASGAYAPLT
M-Ihh M-Shh . C-Shh Z-Shh D-hh M-Dhh M-Ihh M-Shh C-Shh Z-Shh	JULIPLDREPN - FLTPLDRDEG FLTPLDRDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S.ALFASRV SGQALFASNVAAYASSV 401	AKKVFYVIET SRKLFYVIET TRRVFYVIET EEKNQVLV·• RAGDSVLA·• QPGQYVLV·• RPGQRVYVVA KPGQRVYVLG	RDVETGELRP • PGGDALQP • SGVPGLQP ERGGDRLLP E• GGQQLLP	AAHLLFVAPO AAHLLFVLDN QRVVKVG•SV ARVARVA•RE ARVAAVS•TH AAVHSVTLRE ASVHSVSLRE	HNDSGPTPGP HNQSEATGST STEDLHTMT• RSKGVVAPLT EAVGVFAPLT EAVGSYAPLT EEAGAYAPLT EASGAYAPLT
M-Ihh M-Shh C-Shh Z-Shh D-hh M-Dhh M-Ihh M-Shh C-Shh	-VLIPLDREPN . FLTPLDRDEG FLTPLDRMDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S.ALFASRV SQALFASNVAAYASSV	AKKVFYVIET SRKLFYVIET TRRVFYVIET EEKNQVLV·• RAGDSVLA·• QPGQYVLV·• RPGQRVYVVA KPGQRVYVLG	LEPRERLLT ROPRABLLT QEPVEKITLT RDVETGELRP • • PGGDALQP • • SGVPGLQP ERGGDRRLLP E• • GGQQLLP DSGQLKSVIV	AAHLLFVAPO AAHLLFVLDN QRVVKVG·SV ARVARVA·RE ARVAAVS·TH AAVHSVTLRE ASVHSVSLRE QRIYT····E	HNDSGPTPGP HNOSEATGST STEDLHTMT• RSKGVVAPLT EAVGVFAPLT VALGSYAPLT EEAGAYAPLT EASGAYAPLT EQRGSFAPVT
M-Ihh M-Shh . C-Shh Z-Shh D-hh M-Dhh M-Ihh M-Shh C-Shh Z-Shh	JULIPLDREPN - FLTPLDRDEG FLTPLDRDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S.ALFASRV SGQALFASNVAAYASSV 401	AKKVFYVIET SRKLFYVIET TRRVFYVIET EEKNQVLV·• RAGDSVLA·• QPGQYVLV·• RPGQRVYVVA KPGQRVYVVA RPGQRVYVVD	RDVETGELRP • PGGDALQP • SGVPGLQP ERGGDRLLP E• GGQQLLP DSGQLKSVIV	AAHLLFVAPO AAHLLFVLDN QRVVKVG•SV ARVARVA•TE ARVAAVS•TH AAVHSVTLRE ASVHSVSLRE QRIYT••••E MRLLSTLEAW	HNDSGPTPGP HNQSEATGST STEDLHTMT- RSKGVVAPLT EAVGVFAPLT VALGSYAPLT EEAGGYAPLT EASGAYAPLT EQRGSFAPVT LPAKEQLHSS
M-Ihh M-Shh . C-Shh Z-Shh D-hh M-Dhh M-Ihh M-Shh C-Shh Z-Shh	-WLIFLDREPN - FLTFLDRMDS FLTFLDRMDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S·ALFASRV SGQALFASNV ··AAYASSV 401 REGTIVVNSV	AKKVFYVIET SRKLFYVIET TRRVFYVIET EEKNQVLV. RAGDSVLA. QPGQYVLV. RPGQRVYVVA RPGQRVYVVA RAGQKVMVVD AASCYAVINS LASCYAVIES	LEPRERLLT ROPRARLLT QEPVEKITLT RDVETGELRP • PGGDALQP • SGVPGLOP ERGGDRRLLP E• GGQQLLP DSGQLKSVIV QSLAHWGLAP HQWAHRAFAP	AAHLLFVAPO AAHLLFVLDN QRVVKVG·SV ARVARVA·RE ARVAAVS·TH AAVHSVTLRE ASVHSVSLRE QRIYT····E MRLLSTLEAW LRLLHALGAL	HNDSGPTPGP HNQSEATGST STEDLHTMT• RSKGVVAPLT EAVGVFAPLT VALGSYAPLT EEAGAYAPLT EASGAYAPLT EQRGSFAPVT LPAKEQLHSS LP•••••••
M-Ihh M-Shh . C-Shh Z-Shh D-hh M-Dhh M-Ihh M-Shh Z-Shh Z-Shh	-WLIPLDREPN . FLTPLDRDEG FLTPLDRMDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S.ALFASRV SGQALFASRVAAYASSV 401REGTIVVNSV AHGTLLVNDV	AKKVFYVIET SRKLFYVIET TRRVFYVIET EEKNQVLV·• RAGDSVLA·• QPGQYVLV·• RPGQRVYVVA KPGQRVYVVA KPGQRVYVLG RAGQKVMVVD	LEPRERLLT ROPRARLLT QEPVEKITLT RDVETGELRP • • PGGDALQP • • • SGVPCLQP ERGGDRRLLP E • • GGQQLLP DSGQLKSVIV QSLAHWGLAP HQWAHRAFAP HHLAQLAFWP	AAHLLFVAP. AAHLLFVAPQ AAHLLFVLDN QRVVKVG.SV ARVARVA.RE ARVAAVS.TH AAVHSVTLRE ASVHSVSLRE QRIYTE MRLLSTLEAW LRLHALGAL LRLFPSL	HNDSGPTPGP HNOSEATGST STEDLHTMT- RSKGVVAPLT EAVGVFAPLT VALGSYAPLT EEAGAYAPLT EEAGAYAPLT EQRGSFAPVT LPAKEQLHSS LP
M-Ihh M-Shh . C-Shh Z-Shh D-hh M-Dhh M-Ihh M-Shh Z-Shh D-hh M-Dhh M-Dhh M-Ihh	-VLIPLDREPN - FLTPLDRDEG FLTPLDRMDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S.ALFASRV SGQALFASNVAAYASSV 401 REGTIVVNSV AHGTLLVNDV RHGTLVVEDV	AKKVFYVIET SRKLFYVIET TRRVFYVIET EEKNQVLV RAGDSVLA QPGQYVLV. RPGQRVYVVA KPGQRVYVVA KPGQRVYVVD AASCYAVINS LASCYAVINS LASCYAVIES VASCFAAVAD LASCYAVIEE	LEPRERLLT ROPRARLLT QEPVEKITLT RDVETGELRP • • PGGDALQP • • • SGVPGLQP ERGGDRRLLP E• • GGQQLLP DSGQLKSVIV QSLAHWGLAP HOWAHRAFAP HHLAQLAFWP HSWAHRAFAP	AAHLLFVAP. AAHLLFVAPQ AAHLLFVLDN QRVVKVG.SV ARVARVA.RE ARVAAVS.TH AAVHSVTLRE ASVHSVSLRE QRIYTE MRLLSTLEAW LRLHALGAL LRLFPSL FRLAHALLAA	HNDSGPTPGP HNOSEATGST STEDLHTMT- RSKGVVAPLT EAVGVFAPLT VALGSYAPLT EEAGAYAPLT EAGAYAPLT EQRGSFAPVT LPAKEQLHSS LP
M-Ihh M-Shh . C-Shh Z-Shh D-hh M-Dhh M-Ihh M-Shh C-Shh Z-Shh D-hh M-Dhh M-Dhh M-Ihh M-Dhh	JULIPLDREPN - FLTPLDRDEG FLTPLDRDSG FLTPLDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S.ALFASRV SGQALFASRVAAYASSV 401 REGTIVVNSV AHGTLLVNDV RHGTLVVEDV AHGTLLINRV	AKKVFYVIET SRKLFYVIET TRRVFYVIET EEKNQVLV RAGDSVLA QPGQYVLV. RPGQRVYVVA KPGQRVYVVA KPGQRVYVVA KPGQRVYVVD AASCYAVINS LASCYAVIES VASCFAAVAD LASCYAVIEE	LEPRERLLT ROPRARLLT QEPVEKITLT RDVETGELRP • PGGDALQP • SGVPGLQP ERGGDRLLP E- GGQQLLP DSGQLKSVIV QSLAHWGLAP HQWAHRAFAP HHLAQLAFWP HSWAHWAFAP HSWAHWAFAP	AAHLLFVAP. AAHLLFVAPQ AAHLLFVLDN QRVVKVG.SV ARVARVA.TH AAVHSVTLRE ASVHSVSLRE QRIYTE MRLLSTLEAW LRLLHALGAL LRLFPSL FRLAHALLAA FRLAQGLLAA	HNDSGPTPGP HNQSEATGST STEDLHTMT- RSKGVVAPLT EAVGVFAPLT VALGSYAPLT EEAGGAYAPLT EASGAYAPLT EQRGSFAPVT LPAKEQLHSS LP
M-Ihh M-Shh . C-Shh Z-Shh D-hh M-Dhh M-Ihh C-Shh Z-Shh D-hh M-Dhh M-Ihh M-Ihh M-Shh C-Shh	JUIPLDREPN FLTPLDRDEG FLTPLDRDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S.ALFASRV SGQALFASNVAAYASSV 401 REGTIVVNSV AHGTLLVNDV RHGTLVVDV AHGTLLVNDV AHGTLLINRV	AKKVFYVIET SRKLFYVIET TRRVFYVIET EEKNQVLV RAGDSVLA QPGQYVLV. RPGQRVYVVA KPGQRVYVVA KPGQRVYVVD AASCYAVINS LASCYAVINS LASCYAVIES VASCFAAVAD LASCYAVIEE	LEPRERLLT ROPRARLLT QEPVEKITLT RDVETGELRP • • PGGDALQP • • • SGVPGLQP ERGGDRRLLP E• • GGQQLLP DSGQLKSVIV QSLAHWGLAP HOWAHRAFAP HHLAQLAFWP HSWAHRAFAP	AAHLLFVAP. AAHLLFVAPQ AAHLLFVLDN QRVVKVG.SV ARVARVA.RE ARVAAVS.TH AAVHSVTLRE ASVHSVSLRE QRIYTE MRLLSTLEAW LRLHALGAL LRLFPSL FRLAHALLAA	HNDSGPTPGP HNOSEATGST STEDLHTMT- RSKGVVAPLT EAVGVFAPLT VALGSYAPLT EEAGAYAPLT EAGAYAPLT EQRGSFAPVT LPAKEQLHSS LP
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M-Ihh M-Shh . C-Shh Z-Shh D-hh M-Dhh M-Ihh C-Shh Z-Shh D-hh M-Dhh M-Ihh M-Ihh M-Shh C-Shh	WLIPLDREPN . FLTPLDRDEG FLTPLDRMDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S.ALFASRV SQALFASRV SQALFASRV 401 REGTIVVNSV AHGTLLVNDV RHGTLVVEDV AHGTLLINRV AQGTILINRV AHGTIVVDRI 451	AKKVFYVIET SRKLFYVIET TRRVFYVIET EEKNQVLV. RAGDSVLA QPGQYVLV. RPGQRVYVVA KPGQRVYVVA KPGQRVYVVD AASCYAVINS LASCYAVINS LASCYAVIEE LASCYAVIEE LASCYAVIED	LEPRERLLT ROPRARLLT QEPVEKITLT RDVETGELRP • • PGGDALQP • • SGVPCLQP ERGGDRRLLP E• • GGQQLLP DSGQLKSVIV QSLAHWGLAP HQWAHRAFAP HHLAQLAFWP HSWAHRAFAP HSWAHRAFAP HSWAHRAFAP QGLAHLAFAP	AAHLLFVAPO AAHLLFVAPO AAHLLFVLDN QRVVKVG·SV ARVARVA·RE ARVAAVS·TH AAVHSVTLRE ASVHSVSLRE QRIYT····E MRLLSTLEAW LRLLHALGAL LRLFPSL··· FRLAHALLAA FRLAQGLLAA ARLYYYVSSF	HNDSGPTPGP HNOSEATGST STEDLHTMT RSKGVVAPLT EAVGVFAPLT VALGSYAPLT EEAGAYAPLT EAGAYAPLT EQRGSFAPVT LPAKEQLHSS LP LAPARTDGGG LCP
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M-Ihh M-Shh Z-Shh D-hh M-Ihh M-Shh Z-Shh D-hh M-Ihh M-Shh Z-Shh D-hh M-Ihh M-Shh Z-Shh D-hh M-Ihh M-Shh Z-Shh M-Ihh M-Shh Z-Shh M-Ihh M-Shh Z-Shh	-WLIPLDREPN - FLTPLDRDEG FLTPLDRMDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S.ALFASRV SQALFASRVAAYASSV 401 REGTIVVNSV AHGTLLVNDV RHGTLVVEDV AHGTLLINRV AQGTILINRV AQGTILINRV AGGTILINRV A	AKKVFYVIET SRKLFYVIET TRRVFYVIET TRRVFYVIET EEKNQVLV RAGDSVLA QPGQYVLV. RPGQRVYVVA KPGQRVYVVA KPGQRVYVVA KPGQRVYVLG RAGQKVMVVD AASCYAVINS LASCYAVIES LASCYAVIES LASCYAVIEE LASCYAVIEDSSAQQONGGAVQPT .AWGSWTPSE TEARGAEPTAATTIT	LEPRERLLIT ROPRARLLIT QEPVEKITLT RDVETGELRP • PGGDALQP • SGVPGLQP ERGGDRALLP E• GGQQLLP DSGQLKSVIV QSLAHWGLAP HQWAHRAFAP HHLAQLAFWP HSWAHWAFAP QGLAHLAFAP GIHWYANALY GMHWYSRLLY GVHSYPQMLY GIHWYSRLLY	AAHLLFVAP. AAHLLFVAPQ AAHLLFVLDN QRVVKVG.SV ARVARVA.TH AAVHSVTLRE ASVHSVSLRE QRIYTE MRLLSTLEAW LRLHALGAL LRLFPSL FRLAHALLAA FRLAQGLLAA ARLYYYVSSF KVKDYVLPQS RLAEELMG* RLGRLLLEES RIGSWVLDGD	HNDSGPTPGP HNOSEATGST STEDLHTMT RSKGVVAPLT EAVGVYAPLT EAVGVAPLT EEAGAYAPLT EEAGAYAPLT EEAGAYAPLT EASGAYAPLT AND TFHPLGMSGA RMHPLGMVAP
M-Ihh M-Shh Z-Shh D-hh M-Ihh M-Shh Z-Shh D-hh M-Ihh M-Shh Z-Shh D-hh M-Ihh M-Shh C-Shh Z-Shh M-Dhh M-Shh C-Shh Z-Shh M-Dhh M-Shh C-Shh M-Dhh M-Shh C-Shh M-Dhh M-Ihh M-Shh C-Shh M-Ihh M-Shh M-Ihh M-Shh C-Shh	-WLIPLDREPN FLTPLDRDEG FLTPLDRMDS FIMPTDRDST 351 KLTFVFADRI DFAPVFARRL HFRATFASHV S.ALFASRV SGQALFASRV ALGTLLVNDV RHGTLVVEDV AHGTLLVNDV ALGTLLINRV AQGTLLINRV AQGTLLINRV AGTILLINRV AGTILLINRV AGTILLINRV AGTILVVEDI 451 PKVV GGSIPAAQSA DGAIPTA KTPAVGPMRL 501 GS-	AKKVFYVIET SRKLFYVIET TRRVFYVIET TRRVFYVIET EEKNQVLV RAGDSVLA QPGQYVLV. RPGQRVYVVA KPGQRVYVVA KPGQRVYVVA KPGQRVYVLG RAGQKVMVVD AASCYAVINS LASCYAVIES LASCYAVIES LASCYAVIEE LASCYAVIEDSSAQQONGGAVQPT .AWGSWTPSE TEARGAEPTAATTIT	LEPRERLLIT ROPRARLLIT QEPVEKITLT RDVETGELRP • PGGDALQP • SGVPGLQP ERGGDRALLP E• GGQQLLP DSGQLKSVIV QSLAHWGLAP HQWAHRAFAP HHLAQLAFWP HSWAHWAFAP QGLAHLAFAP GIHWYANALY GMHWYSRLLY GVHSYPQMLY GIHWYSRLLY	AAHLLFVAP. AAHLLFVAPQ AAHLLFVLDN QRVVKVG.SV ARVARVA.TH AAVHSVTLRE ASVHSVSLRE QRIYTE MRLLSTLEAW LRLHALGAL LRLFPSL FRLAHALLAA FRLAQGLLAA ARLYYYVSSF KVKDYVLPQS RLAEELMG* RLGRLLLEES RIGSWVLDGD	HNDSGPTPGP HNOSEATGST STEDLHTMT RSKGVVAPLT EAVGVYAPLT EAVGVAPLT EEAGAYAPLT EEAGAYAPLT EEAGAYAPLT EASGAYAPLT AND TFHPLGMSGA RMHPLGMVAP

Figure 5B

ㅋㅋ * ㅋㅋㅋㅋㅋ **口豆 * 豆豆豆豆× KX*XXXXX** म म म म म म म म 段段 * 段段段段段 百日 * 日日日日日日 0 * * 0 0 0 0 0 0 U * * ZZZZ X **农 * * 及及及及及** α μ μ μ \times * + + + + × **K * * K K K K X** 0 * * 0 0 0 0 0 [±] ★ * 6 6 6 6 6 * * * * * * * D * * R R R R X 0 * * 0 0 0 0 0 $\alpha * * \alpha \alpha \alpha \alpha \alpha$ * 44444 0 * * 0 0 0 0 0 나 * * ㅂㅂㅂㅂㅂ 4 4 4 4 4 4 4 * X X X X X * EEEEE A * * A A A A X $\Sigma * * > > > > \times$ * Z Z Z Z X 6 6 6 6 6 * #### भ मिमिमिक $\alpha *$ * 00000 * X X X X X * スススス・ * 4444 * 4 * 4 4 4 4 4 A * * B B B B B * 4 4 4 6 4 × * 44444 O * * XXXXX * XXXXX ∞ * * 444444 * * * * × * * * * * × *** * * H H H X * * * * * * *** * 段段段段段 * X X X X X * ७७७७ 🛪 ひ ★ * ७७७७७ 段段段段段 * ७७७७७ * 444444 * ७ ७ ७ ७ ७ * 00000 H-Shh: C-Shh: M-Shh: Z-Shh: M-Ihh: H-Ihh:

4444444

**** \mathcal{O} ммммммм XXXXXXXXX σ σ σ σ σ σ σ σ σ σ пипипипи 4444444 >>>>>>> **RRRRRRR セセサササロロ** スエエエドエエエ >>>>>>>> o o o o o o o o o**4444444** ZZZZZZZZ ZOOOOOEX ZZZZZZZZ ΣΣΣΣΣΣΣΣ >>>>>>>> ннннннн **4444444** 보보보보보보보 4 5 5 5 4 4 5 5 X ZZZZZZZZ > uu uu uu uu x **RRRXXXXX** MODDDDDX **XXXXXXXX** 00000000 民民民民民民民民民 Maaaaaax 444444 ΣΣΣΣΣΣΣΣ 너 너 너 너 너 너 너 너 너 民民民民民民民民民 44 * 4444 O O * O O O O O0 F * F F F F X 22 * 22222 ии * иииии ыы * ыыыыы 99999 **XX * XXXXX** म्यामायाभ भ भ्यभ нн * ннннн нн* нннн 4 4 4 4 4 4 **ди * драда** 22 * 22222 **ZZ* ZZZZ 64 4 6 6 6 6 6**

о в в в в в в в я A S S A A A A X K'XXXXXXX >>>>>>>>> α α α α α α α α > 0 0 0 0 0 0 0 × **HHHHHHH** H > > H H H H X **HHHHHH** ZAAAAAAX **KXXXXXXX** α α α α α α α α шшышышыы >>>>>>>> REEEEE म म म म म म म म म OAAAAAAAA ипппппппп AAAAAAAA ココココココココ AAAAAAX 너 너 너 너 너 너 너 너 너 **4432254** O**XXXXXXXX** ZZZGGGGX **KKKKKKK** 9999999 **RRRRRRR** 0000000 α α α α α α α α нененен 66666666 ннннннн 9999999 X < < < < < L REREREE **RRRRRRR** o o o o o o o o o oи и и и и и и и и 4444444 α α α α α α α α о и и и и и и х оппппппх

D-hh	48 (64) 51 (68) 48 (68) 49 (64) 47 (64)
Zf-Shh	68 (80) 54 (71) 61 (75) 68 (80)
C-Shh	84 (92) 61 (77) 64 (78)
M-Ihh	63 (78) 58 (75)
M-Dhh M-Ihh	61 (77)
	M-Shh M-Dhh M-Ihh C-Shh Zf-Shh

FIGURE 6

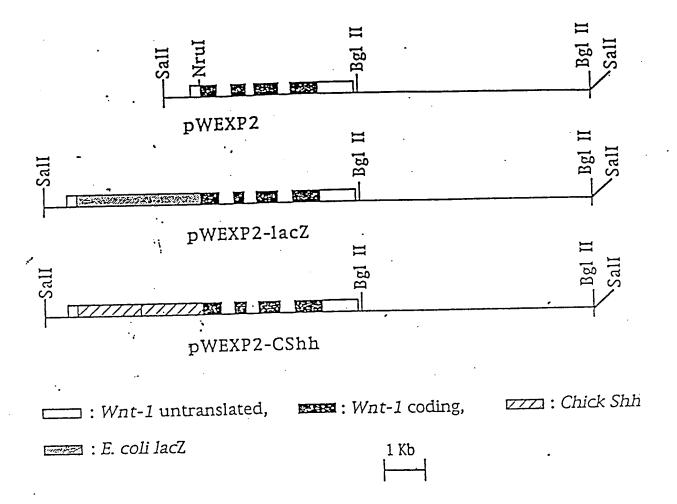
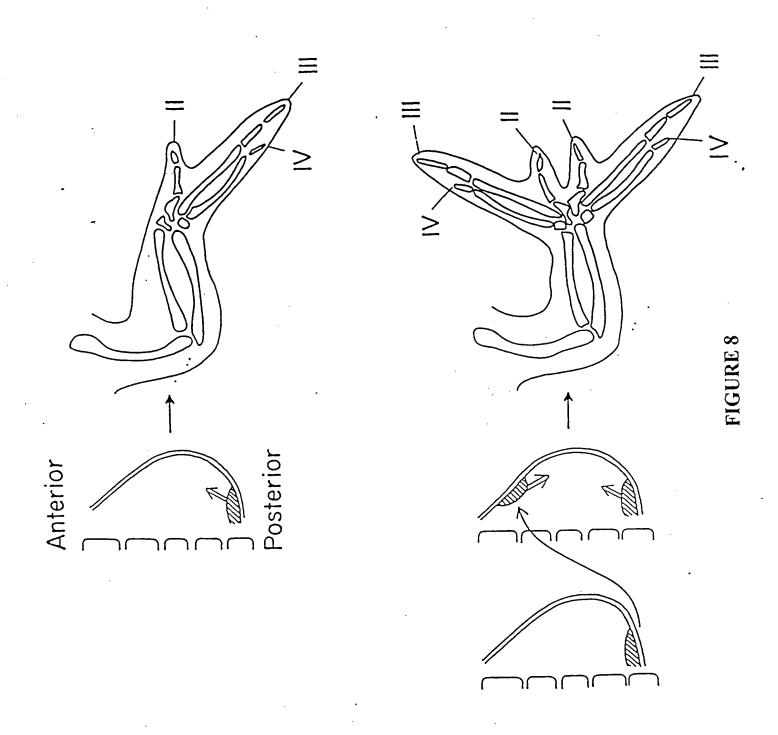


FIGURE 7



hh	1	MDNHSSVPWASAASVTCLSLDAKCHSSSSSSSKSAASSISAIPQEETQT
shh		
hh	51	MRHIAHTQRCLSRLTSLVALLLIVLPMVFSPAHSCGPGRGLGRHR.ARNL
shh	1	MRLLTRVLLVSLLTLSLVVS.GLACGPGRGYGRRRHPKKL
hh	100	YPLVLKQTIPNLSEYTNSASGPLEGVIRRDSPKFKDLVPNYNRDILFRDE
shh	40	TPLAYKQFIPNVAEKTLGASGRYEGKITRNSERFKELTPNYNPDIIFKDE
hh	150	EGTGADRLMSKRCKEKLNVLAYSVMNEWPGIRLVVTESWDEDYHHGQESL
shh	90	ENTGADRLMTQRCKDKLNSLAISVMNHWPGVKLRVTEGWDEDGHHFEESL
hh	200	HYEGRAVTIATSDRDQSKYGMLARLAVEAGFDWVSYVSRRHIYCSVKSDS
shh	140	HYEGRAVDITTSDRDKSKYGTLSRLAVEAGFDWVYYESKAHIHCSVKAEN
hh	250	SISSHVHGCFTPESTALLESGVRKPLGELSIGDRVLSMTANGQAVYSEVI
shh	190	SVAAKSGGCFPGSALVSLQDGGQKAVKDLNPGDKVLAADSAGNLVFSDFI
hh	300	LFMDRNLEQMQNFVQLHT.DGGAVLTVTPAHLVSVWQPESQKLTFVF
shh	240	MFTDRDSTTRRVFYVIETQEPVEKITLTAAHLLFVLDNSTEDLHTMTAAY
hh	347	ADRIEEKNQVLVRDVETGELRPQRVVKVGSVRSKGVVAPLTREGTIVVNS
shh	290	ASSVRAGQKVMVVD.DSGQLKSVIVQRIYTEEQRGSFAPVTAHGTIVVDR
hh	397	VAASCYAVINSQSLAHWGLAPMRLLSTLEAWLPAKEQLHSS
shh	339	ILASCYAVIEDQGLAHLAFAPARLYYYVSSFLSPKTPAVGPMRLYNRRGS
hh	438	PKVVSSAQQQNGIHWYANALYKVKDYVLPQSWRHD 471
shh	389	TGTPGSCHOMGTWLLDSNMLHPLGMSV 415

FIGURE 9A

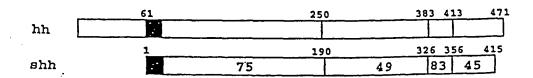


FIGURE 9B

FIGURE 10

QRCKDKLNSLAISVMNLWPGVKLRVTEGWDEDGLHSEESLHYEGRAVDITTSDRDRNKYRMLAI	hh[b]
QRCKEKLNSLAISVMNMWPGVKLRVTEGWDEDGNHFEDSLHYEGRAVDITTSDRDRNKYGMFAI	hh[a]
QRCKDKLNSLAISVMNHWPGVKLRVTEGWDEDGHHFEESLHYEGRAVDITTSDRDKSKYGTLSI	ahh
KRCKEKLNVLAYSVMNEWPGIRLVVTESWDEDYHHGQESLHYEGRAVTIATSDRDQSKYGMLAI	ЧЧ

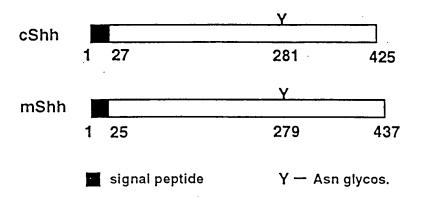


FIGURE 11

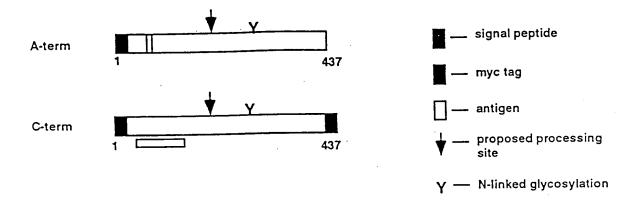


FIGURE 12

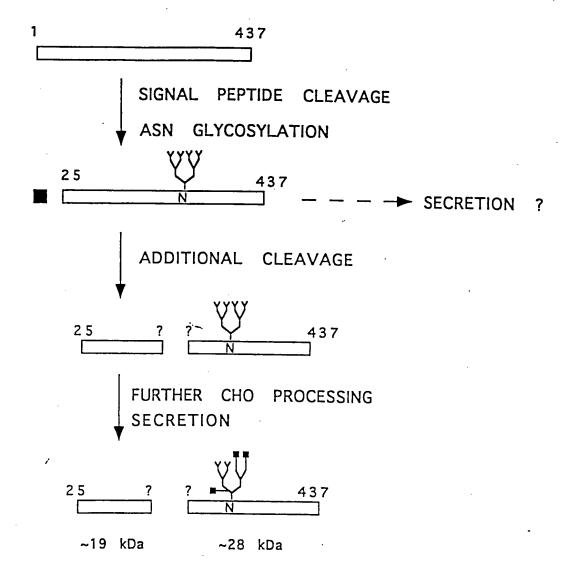


FIGURE 13

FIGURE 14

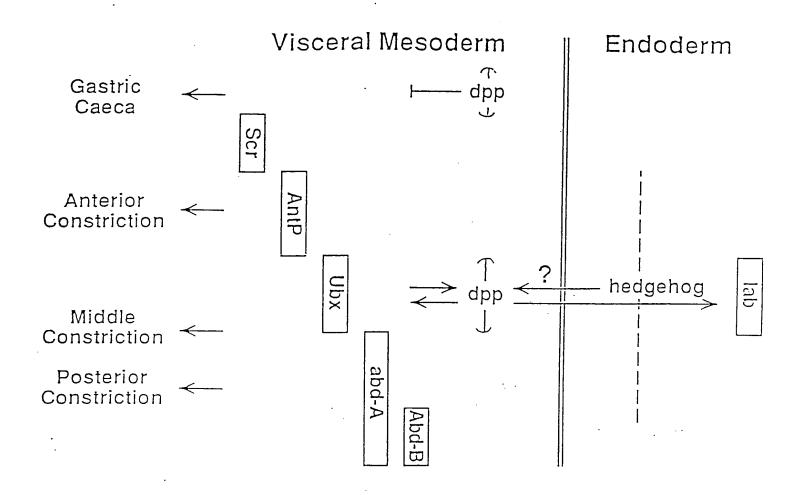


FIGURE 15A

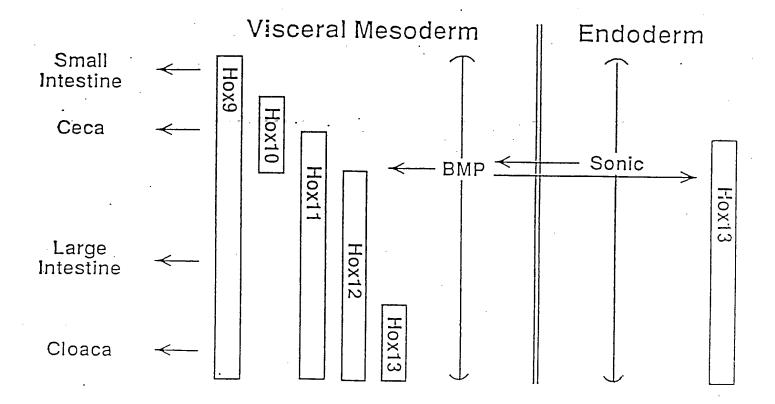


FIGURE 15B

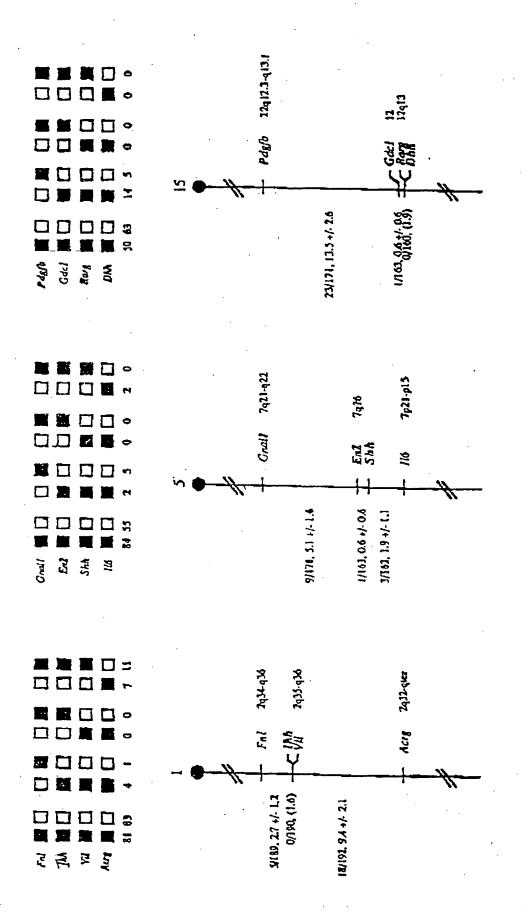


FIGURE 16